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EXAMINER	
REGO, DOMINIC E	
ART UNIT	**PAPER NUMBER**
2684	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/609,173	POPE, JOHN	
	Examiner	Art Unit	
	Dominic E. Rego	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,4-7,9-14, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Dajer et al. *(US Patent #6,781,980).*

Regarding claim 1, Dajer teaches in a wireless network, a method for transmitting analog signals to at least one wireless terminal *(Figure 2, element 206),* the method comprising:

receiving a digital signal *(Figure1, base station 109 or 110 receiving a digital signal from mobile switching center 104)* that defines (i) bearer data *(voice, voiceband data, or digital data signal)* for each of a plurality of channels; and (ii) control information *(power signal)* for each of the plurality of channels *(Col 1, line 16-22);*

parsing from the control information, a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies; based on the power level and the modulation frequency, responsively generating an analog signal having a plurality of analog channels that defines the bearer data in the digital signal;

and transmitting the analog signal to the at least one wireless terminal *(Col 1, line 27-60).*

Regarding claim 2, Dajer teaches the method, wherein responsively generating the analog signal comprises:

applying a spreading sequence to each channel of bearer data in the digital signal to produce a spread spectrum signal for each channel of bearer data *(Col 1, line 12-22)*;

amplifying the spread spectrum signal for each channel of bearer data to the power level defined by the control information for the channel *(Col 1, line 56-60);*

adding the spread spectrum signal for each channel of bearer data to produce a sum of spread spectrum signals *(Col 2, line 34-51);*

converting the sum of the spread spectrum signals into the analog signal *(Col 2, line 3-18);* and

modulating the analog signal to the modulation frequency defined by the control information *(Col 1, line 44-60).*

Regarding claim 4, Dajer teaches the method, wherein the control information further comprises a spreading sequence *(such as Walsh code)* and a PN offset *(Col 3, line 5-13 and col 2, line 42-51).*

Regarding claim 5, Dajer teaches in a wireless network, a method comprising:

receiving, from a first network entity, bearer data for a plurality of channels *(Figure 1, base station 109 or 110, receives bearer data such as processing of voice, voice band data or digital data signals) (Col 1, line 16-22)*;

establishing (i) a modulation frequency for an analog signal that is to define the bearer data for the plurality of channels and (ii) a power level for each channel of bearer data; and outputting to a second network entity, a digital signal defining (i) the bearer data; (ii) the modulation frequency; and (iii) the power level *(Figure 1, base station 109 or 110, transmitting a digital signal includes processing of voice, voice band signal or digital data signals to the wireless networks 112-115) (Also see Col 1, line 28-60).*

Regarding claim 6, Dajer teaches the method, wherein establishing the modulation frequency and the power level comprises receiving, from a user-interface *(See Figure 1, Air interface),* a user-indication of the power level and the modulation frequency *(Col 1, line 44-60).*

Regarding claim 7, Dajer teaches the method, wherein outputting (i) the bearer data *(processing of voice, voice band data or digital data signals)* and (ii) the control information *(modulation frequency)* comprises outputting to the second network entity a frame defining the bearer data and the control information (Figure 1, Base station 109 or 110 transmits *processing of voice, voice band data or digital data signals and modulation frequency to the wireless terminals 112-115) (Col 1, line 44-60).*

Regarding claim 9, Dajer teaches in a wireless network, a system for transmitting analog signals to at least one wireless terminal *(Figure 2, element 206 is converter to convert the digital signal to analog signal and transmitting the base station's antenna 214)*, the system comprising:

a receiver arranged to receive a digital signal *(Figure1, base station 109 or 110 receiving a digital signal from mobile switching center 104)* that defines (i) bearer data *(voice, voiceband data, or digital data signal)* for each of a plurality of channels; and (ii) control information *(power signal)* for each of the plurality of channels *(Col 1, line 16-22);*

a parser arranged to parse from the control information, a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies; means for responsively generating, based on the power level and the modulation frequency, an analog signal having a plurality of analog channels that defines' the bearer data in the digital signal; and an RF power amplifier arranged to transmit the analog signal to the at least one wireless terminal *(Col 1, line 27-60).*

Regarding claim 10, Dajer teaches the system, wherein the control information further comprises a spreading sequence *(such as Walsh code)* and a PN offset *(Col 3, line 5-13 and col 2, line 42-51).*

Regarding claim 11, Dajer teaches in a wireless network, a system for transmitting analog signals to at least one wireless terminal *(Figure 2, element 206 is converter to convert the digital signal to analog signal and transmitting the base station's antenna 214)*, the system comprising:

a receiver arranged to receive a digital signal *(Figure1, base station 109 or 110 receiving a digital signal from mobile switching center 104)* that defines (i) bearer data *(voice, voiceband data, or digital data signal)* for each of a plurality of channels; and (ii) control information *(power signal)* for each of the plurality of channels *(Col 1, line 16-22);*

a parser arranged to extract from the control information, a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies *(Col 1, line 27-60)*;

a spreading unit arranged to define, for each of the plurality of channels, a spread spectrum signal *(Col 1, line 12-22)*;

a power control unit arranged to amplify the spread spectrum signal for each of the plurality of channels, the spread spectrum signal being amplified to the power level defined by the control information for the channel *(Col 2, line 34-51)*;

an adder arranged to sum the spread spectrum signal for each channel to produce a sum of spread spectrum signals *(Col 2, line 34-51)*;

a digital-to-analog converter arranged to convert the sum of the spread spectrum signals into an analog signal *(Col 2, line 3-18);*

a modulator arranged to modulate the analog signal to the modulation frequency defined by the control information *(Col 2, line 3-18)*; and

an RF power amplifier arranged to transmit the analog signal to the at least one wireless terminal *(Figure 2, antenna 214 transmit the analog signal to the at least one wireless terminal 112-115).*

Regarding claim 12, Dajer teaches the system, wherein (i) the control information includes a spreading sequence *(Walsh code)* for each channel of the digital signal; and (ii) the spreading unit is further arranged to apply to each channel of the digital signal the spreading sequence *(Col 1, line 12-22)*.

Regarding claim 13, Dajer teaches the system, wherein the control information includes a PN offset for the analog signal, the system further comprising a PN offset unit arranged to apply to the sum of spread spectrum signals the PN offset *(Col 2, line 34-Col 3, line13).*

Regarding claim 14, Dajer teaches a wireless network, a system *(base station)* comprising:

a processor; memory *(a base station inherently contains a processor and a memory to store information);* and

computer instructions stored in memory and executable by a processor for

performing the functions of: receiving, from a first network entity, bearer data for a plurality of channels *(Figure 1, base station 109 or 110, receives bearer data such as processing of voice, voice band data or digital data signals) (Col 1, line 16-22);*

establishing (i) a modulation frequency for an analog signal that is to define the bearer data for the plurality of channels and (ii) a power level for each channel of bearer data; and outputting to a second network entity, a digital signal defining (i) the bearer data; (ii) the modulation frequency; and (iii) the power level *(Figure 1, base station 109 or 110, transmitting a digital signal includes processing of voice, voice band signal or digital data signals to the wireless networks 112-115) (Also see Col 1, line 28-60).*

Regarding claim 16, Dajer teaches the system, further comprising a user-interface *(Figure 1, Air interface between base stations 109 and 110 and wireless terminals 112-115)* and wherein the computer instructions stored in memory *(a base stations contain memory for storing information or instructions)* and executable by a processor for performing the function of establishing the power level and the modulation frequency comprises: computer instructions executable by the processor for receiving from the user-interface *(Figure 1, Air interface between base stations 109 and 110 and wireless terminals 112-115)*, (i) a user-indication of the power level for each channel of bearer data; and (ii) the modulation frequency for the analog signal*(Col 1, line 44-60).*

Regarding claim 17, Dajer teaches the system *(base station 109 or 110)*, wherein the computer instructions stored in memory and executable by a processor for

performing the function *(a base station inherently contains a processor and a memory to store information)* of outputting to the radio control unit, (i) the bearer data *(processing of voice, voice band data or digital data signals)*; (ii) the modulation frequency; and (iii) the power level comprises: computer instructions executable by the processor output a frame defining (i) the bearer data; (ii) the modulation frequency; and (iii) the power level (Figure 1, Base station 109 or 110 transmits *processing of voice, voice band data or digital data signals and modulation frequency to the wireless terminals 112-115) (Col 1, line 27-60)*.

Regarding claim 18, Dajer teaches a system comprising:

a digital base station *(Figure 1, elements 109 or 110);*

a radio link converter unit *(Figure 2, element 206);*

wherein the digital base station is communicatively coupled to the radio link converter unit *(Col 1, line 27-60)*;

the digital base station *(Figure1, base station 109 or 110 receiving a digital signal from mobile switching center 104)* arranged to:

receive bearer data *(voice, voiceband data, or digital data signal)* for a plurality of channels *(Col 1, line 16-22)*;

establish (i) a modulation frequency for an analog signal that is to define the bearer data for the plurality of channels; and (ii) a power level for each channel of bearer data and output to the radio link converter unit, a digital signal defining (i) the bearer data, (ii) the modulation frequency, and (iii) the power level *(Figure 1, base*

station 109 or 110, transmitting a digital signal includes processing of voice, voice band signal or digital data signals to the wireless networks 112-115) (Also see Col 1, line 28-60); and

the radio link converter *(Figure 2, element 206)* unit arranged to:

receive a digital signal (Figure 2, element 206 is a converter receives digital signal from the digital signaling processing that defines (i) bearer data *(processing of voice, voice band signal or digital data signals)* for each of a plurality of channels; and (ii) control information *(power signal)* for each of the plurality of channels *(Col 1, line 16-22);*

parse from the control information, a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies; based on the power level and the modulation frequency, responsively generate an analog signal having a plurality of analog channels that defines the bearer data in the digital signal; and transmit the analog signal to the at least one wireless terminal *(Col 1, line 27-60).*

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dajer et al. (US Patent #6,781,980) in view of Kenneth *(US Patent Application Publication #20020191676).*

Regarding claim 3, Dajer teaches the method, wherein the spreading sequence is selected from the group consisting of a Walsh code, except for the method, wherein the spreading sequence is selected from the group consisting of a Gold code.

However, in related art, Kenneth teaches the method, wherein the spreading sequence is selected from the group consisting of a Gold code *(See claim 37).*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teaching of the method, wherein the spreading sequence is selected from the group consisting of a Gold code, as taught by Kenneth, in the Dajer's device in order to prevent identification of the sequence.

Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dajer et al. (US Patent #6,781,980) in view of Tian *(US Patent Application Publication #20050215245).*

Regarding claim 8, Dajer teaches the method, wherein (i) the first network entity is selected from the group consisting of a MSC *(Figure 1, element 104);* and (ii) the second network entity is a radio link converter unit *(Figure 2, element 204)* except for the first network entity is selected from the group consisting of PSDN.

However, in related art, Tian teaches the first network entity is selected from the group consisting of PSDN *(Paragraph 0020).*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teaching of the first network entity is selected from the group consisting of a PSDN, as taught by Tian, in the Dajer's device in order to communicate with other device (Tian, paragraph 0020).

Regarding claim 15, Dajer teaches the system, wherein (i) first network entity is selected from the group consisting of a MSC *(Figure 1, element 104)*; and (ii) the second network entity is a radio link converter unit *(Figure 2, element 204),* except for the first network entity is selected from the group consisting of PSDN.

However, in related art, Tian teaches the first network entity is selected from the group consisting of PSDN *(Paragraph 0020).*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teaching of the first network entity is selected from the group consisting of a PSDN, as taught by Tian, in the Dajer's device in order to communicate with other device (Tian, paragraph 0020).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hiramatsu et al. (US Patent Application Publication #20050148369) teaches wireless base station apparatus and wireless communication method.

Honton (US Patent Application Publication #20040198414) teaches system and method for eliminating signal zero crossings in single and multiple channel communication systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic E. Rego whose telephone number is 571-272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dominic E. Rego

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